



Montana Department of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Jim Lynch, Director
Brian Schweitzer, Governor

June 5, 2007

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ENVIRONMENTAL

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FHWA
MONTANA DIVISION

Michael Duman
Assistant Division Administrator
Federal Highway Administration
585 Shepard Way
Helena, MT 59601-9785

RECEIVED

JUN 15 2007

Subject: HSIP 473-1(2)12
SF069 – GUARDRAIL – S OF CONNER
CN 6076000

Ravalli County Commissioners

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This is to request approval of this proposed project as a Categorical Exclusion (CE) under the provisions of 23 CFR 771.117(d), and the Programmatic Agreement as signed by the MONTANA DEPARTMENT OF TRANSPORTATION (MDT) and the FHWA on April 12, 2001. A Copy of its Preliminary Field Review Report (8/16/06) is attached. This proposed action also qualifies as a CE under ARM 18.2.261 (Sections 75-1-103 and 75-1-201, MCA).

The following form provides the documentation required to demonstrate that all of the conditions are satisfied to qualify for a Programmatic Categorical Exclusion Approval (PCE) as initially agreed by the (former) MONTANA DEPARTMENT OF HIGHWAYS (MDOH) and the FHWA on December 6, 1989. (Note: An "X" in the "N/A" column is "Not Applicable" to, while one in the "UNK" column is "Unknown" at the present time for this proposed project.)

NOTE: A response in a box will require additional documentation for a Categorical Exclusion request in accordance with 23 CFR 771.117(d).

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
1. This proposed project would have (a) significant environmental impact(s) as-defined under <u>23 CFR 771.117(a)</u> .	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. This proposed project involves (an) unusual circumstance(s) as described under <u>23 CFR 771.117(b)</u> .	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. This proposed project involves one (or more) of the following situations where:				
A. Right-of-Way, easements, and/or construction permits would be required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. The context or degree of the Right-of-Way action would have (a) substantial social, economic, or environmental effect(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. There is a high rate of residential growth in this proposed project's area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. There is a high rate of commercial growth in this proposed project's area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Work would be on and/or within approximately 1.6 kilometers (1± mile) of an Indian Reservation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
5. There are parks, recreational, or other properties acquired/improved under <i>Section 6(f)</i> of the 1965 <i>National Land & Water Conservation Fund Act (16 USC 460L, et seq.)</i> on or adjacent to proposed the project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The use of such <i>Section 6(f)</i> sites would be documented and compensated with the appropriate agencies. (e.g.: MDFWP, local entities, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Are there any sites either on, or eligible for the National Register of Historic Places with concurrence in determination of eligibility or effect under <i>Section 106</i> of the <i>National Historic Preservation Act (16 USC 470, et seq.)</i> by the State Historic Preservation Office (SHPO), which would be affected by this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. There are parks, recreation sites, school grounds, wildlife refuges, historic sites, historic bridges, or irrigation that might be considered under <i>Section 4(f)</i> of the 1966 <i>US DEPARTMENT OF TRANSPORTATION Act (49 USC 303)</i> on or adjacent to the project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. "Nationwide" Programmatic <i>Section 4(f)</i> Evaluation forms for these sites are attached.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. This proposed project requires a full (i.e.: DRAFT & FINAL) <i>Section 4(f)</i> Evaluation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. The activity would involve work in a streambed, wetland, and/or other waterbody(ies) considered as "waters of the United States" or similar (e.g.: "state waters").	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Conditions set forth in <i>Section 10</i> of the <i>Rivers and Harbors Act (33 USC 403)</i> and/or <i>Section 404</i> under <u>33 CFR Parts 320-330</u> of the <i>Clean Water Act (33 USC 1251-1376)</i> would be met.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Impacts in wetlands, including but not limited to those referenced under Executive Order (E.O.) #11990, and their proposed mitigation would be coordinated with the US Army Corps of Engineers and other Resource Agencies (Federal, State and Tribal) as required for permitting	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. A 124SPA Stream Protection Authorization would be obtained from the MDFWP?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. There is a delineated floodplain in the proposed project area under FEMA's Floodplain Management criteria.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The water surface at the 100-year flood limit elevation would exceed floodplain management criteria due to an encroachment by the proposed project.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Tribal Water Permit would be required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Work would be required in, across, and/or adjacent to a river which is a component of, or proposed for inclusion in Montana's Wild and/or Scenic Rivers system as published by the US Department of Agriculture, or the US Department of the Interior.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
The designated National Wild & Scenic River systems in Montana are:				
a. Middle Fork of the Flathead River (headwaters to South Fork confluence).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. North Fork of the Flathead River (Canadian Border to Middle Fork confluence).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
In accordance with <i>Section 7 of the Wild and Scenic Rivers Act (16 USC 1271 – 1287)</i> , this work would be coordinated and documented with either the Flathead National Forest (Flathead River), or US Bureau of Land Management (Missouri River).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. This is a "Type I" action as defined under <u>23 CFR 772.5(h)</u> , which typically consists of highway construction on a new location or the physical alteration of an existing route which substantially changes its horizontal or vertical alignments or increases the number of through-traffic lanes.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. If yes, are there potential noise impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. A Noise Analysis would be completed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. There would be compliance with the provisions of both <u>23 CFR 772</u> for FHWA's Noise Impact analyses and MDT's Noise Policy.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. There would be substantial changes in access control involved with this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes, would they result in extensive economic and/or social impacts on the affected locations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. The use of a temporary road, detour, or ramp closure having the following conditions when the action(s) associated with such facilities:				
1. Provisions would be made for access by local traffic, and be posted for same.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Adverse effects to through-traffic dependant businesses would be avoided or minimized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Interference to local events(e.g.: festivals) would be minimized to all possible extent.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Substantial controversy associated with this pending action would be avoided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Hazardous wastes /substances, as defined by the US Environmental Protection Agency (EPA) and/or the Montana Department of Environmental Quality (MDEQ), and/or (a) listed "Superfund" (under CERCLA or CECRA) site(s) are currently on and/or adjacent to this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


	YES	NO	N/A	UNK
All reasonable measures would be taken to avoid and/or minimize substantial impacts from same.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. The Montana Pollutant Discharge Elimination System's conditions (ARM 16.20.1314), including temporary erosion control features for construction would be met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Permanent desirable vegetation with an approved seeding mixture would be established on exposed areas.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I. Documentation of an "invasive species" review to comply with both EO #13112 and the <i>County Noxious Weed Control Act</i> (7-22-21, MCA), including directions as specified by the county(ies) wherein its intended work would be done.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. There are "Prime" or "Prime if Irrigated" Farmlands designated by the Natural Resources Conservation Service on or adjacent to the proposed project area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If the proposed work would affect Important Farmlands, then an AD-1006 Farmland Conversion Impact Rating form would be completed in accordance with the <i>Farmland Protection Policy Act</i> (7 USC 4201, et seq.).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
K. Features for the <i>Americans with Disabilities Act</i> (PL 101-336) compliance would be included.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
L. A written Public Involvement Plan, would be completed in accordance with MDT's Public Involvement Handbook.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. This proposed project complies with the <i>Clean Air Act's Section 176(c)</i> (42 USC 7521(a), as amended) under the provisions of <u>40 CFR 81.327</u> as it's either in a Montana air quality:				
A. "Unclassifiable"/attainment area. This proposed project is <u>not</u> covered under the EPA's September 15, 1997 Final Rule on air quality conformity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
and/or				
B. "Nonattainment" area. However, this type of proposed project is either exempted from the conformity determination requirements (under EPA's September 15, 1997 Final Rule), or a conformity determination would be documented in coordination with the responsible agencies: (Metropolitan Planning Organizations, MDEQ's Air Quality Division, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Is this proposed project in a "Class I Air Shed" (Indian Reservations) under <u>40 CFR 52.1382(c)(3)</u> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Federally listed Threatened or Endangered (T/E) Species:				
A. There are recorded occurrences, and/or critical habitat in this proposed project's vicinity.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Would this proposed project result in a " <u>jeopardy</u> " opinion (under 50 CFR 402) from the Fish & Wildlife Service on any Federally listed T/E Species?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The proposed project would not induce significant land use changes, nor promote unplanned growth. There would be no significant effects on access to adjacent property, nor to present traffic patterns.

This proposed project would not create disproportionately high and/or adverse impacts on the health or environment of minority and/or low-income populations (EO #12898). It also complies with the provisions of *Title VI* of the *Civil Rights Act* of 1964 (**42 USC 2000d**) under the FHWA's regulations (23 CFR 200).

In accordance with the provisions of 23 CFR 771.117(a), this pending action would not cause any significant individual, secondary, or cumulative environmental impacts. Therefore, the FHWA's concurrence is requested that this proposed project is properly classified as a Categorical Exclusion.


_____, Date: 6/05/07
Thomas G. Gocksch P.E.
Project Development Engineer
MDT Environmental Services Bureau


Concur _____, Date: 6/05/07
Tom Hansen, P.E. - Engineering Section Supervisor
Environmental Services Bureau


Concur _____, Date: 6/8/07
Federal Highway Administration

TLH:tgg S:\PROJECTS\MISSOULA\6076000\6076ENCED001.DOC

Attachments

cc: Dwane Kailey, P.E. - District Administrator - Missoula District
Duane E. Williams, P.E. - Traffic and Safety Engineer
John H. Horton - MDT Right-of-Way Bureau Chief
Suzy Price - MDT Contract Plans Section Supervisor
David W. Jensen, Supervisor - MDT Fiscal Programming Section
Dan Smith - Acting Chief, Environmental Services Bureau
Tom Gocksch P.E. - Environmental Services Bureau
Pat Basting - Biologist, Missoula District Office
Ravalli County - 215 SOUTH FOURTH, SUITE A, HAMILTON MT 59840-2853
Environmental Quality Council

MDT attempts to provide accommodation for any known disability that may interfere with a person participating in any service, program or activity of the Dept. Alternative accessible formats of this information will be provided upon request. For further information, call 406-444-7228 or TTY (800-335-7592), or call Montana Relay at 711.



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Paul R. Ferry, PE
Highways Engineer

From: Damian Krings, PE *DK*
Road Design Engineer

Date: August 16, 2006

Subject: HSIP 473-1(2)12
SF069 - Guardrail - S of Conner
UPN 6076000
Work Type 310 - Roadway & Roadside Safety Improvements

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AUG 21 2006

ENVIRONMENTAL

We request that you approve attached the Preliminary Field Review Report for the subject project.

Approved *Paul R. Ferry* Date 8/17/06
For Paul R. Ferry, PE
Highways Engineer

We are requesting comments from those on the distribution. We will assume you concur if no comments are received within two weeks of the report's distribution by Road Design.

Distribution (all with attachment)

* (survey request also attached)

D. Kailey, Missoula*
K. Barnes, Bridge
M. Strizich, Materials
J. H. Horton, Right-of-Way*
D.J. Blacker, Maintenance
S. Straehl, Planning
J.A. Riley, Environmental
M. McArthur, Construction En
D.E. Williams, Traffic & Safet
R. B. Jackson, Geotech
C. Genzlinger, FHWA (HOP-N)

Bill
9/1

8/23
8/25
8/25

X
X
X
X

Copy sent to Missoula 8/24/06

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Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Paul R. Ferry, PE
Highways Engineer

From: Damian Krings, PE *DK*
Road Design Engineer

Date: August 16, 2006

Subject: HSIP 473-1(2)12
SF069 - Guardrail - S of Conner
UPN 6076000
Work Type 310 - Roadway & Roadside Safety Improvements

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AUG 21 2006

ENVIRONMENTAL

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Approved

Paul R. Ferry
For Paul R. Ferry, PE
Highways Engineer

Date 8/17/06

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D.E. Williams, Traffic & Safet
R. B. Jackson, Geotech
C. Genzlinger, FHWA (HOP-A)

NAME	DATE	REMARKS
Bill	9/1	
JK 8/31		
PB 8/31		
		X

Copy sent to Missoula 8/24/06

e-copies:

Preconstruction Engineer

Hydraulics Engineer

Hydraulics Designer, Missoula District
Environmental Bureau Resources Section
Super.

Missoula District Biologist (Helena Env.
Bureau)

Missoula District Project Development
Engineer

Traffic Engineer

Missoula District Traffic Project Engineer
(Helena)

Safety Management Engineer

Bridge Area Engineer, Missoula District
Pavement Engineer

Missoula District Geotechnical Manager
(Helena)

Supervisor, Photogrammetry & Survey
Section

Missoula District Engineering Services
Missoula District Materials Lab
Maintenance Chief - Kalispell

R/W Utilities Section Supervisor

R/W Design Manager

R/W Access Management Section Manager
Engineering Information Services

Public Involvement Officer

Project Analysis Bureau Chief

Research Section Supervisor

Secondary Roads Engineer

Preliminary Field Review Report

HSIP 473-1(2)12

SF069 - Guardrail – S of Conner

UPN 6076000

Work Type 310 - Roadway & Roadside Improvements

1. **Introduction** – A preliminary field review was held on April, 26, 2006. The following attended the field review.

Wade Salyards, PE, CE Specialist IV, Road Design, Helena
Bob Eide, CE Specialist III, Road Design, Helena
Ray Sacks, Construction, Butte
Mike Nichols, Traffic Operations Crew Leader, Ravalli County
Bill Meisner, Ravalli County Road Foreman

2. **Proposed Scope of Work** - We propose to install guardrail along the east side of Secondary 473 between Reference Post (RP) 12.0± and 12.6±. The project was nominated with limits of RP 12.0± to RP 12.5± to address an accident cluster identified by Safety Management.
3. **Project Location and Limits** – The project is on Secondary 473 in Ravalli County. It begins at RP 12.0±, 12 miles southwest of the junction of US 93 and Secondary 473. It extends southerly 0.6± miles to RP 12.6±. The approximate as-built station limits are Station 630+00 to 662+00 (stationing increases from north to south). The project limits may change slightly as the design is refined. Revisions will be documented in the scope of work report.
4. **Physical Characteristics** – S-473 is functionally classified as a secondary rural collector. The road is on the narrow corridor between the West Fork of the Bitterroot River to the east and a steep hillside to the west. The roadway grades range from level to gently rolling, but the river and adjacent mountainous terrain constrain the horizontal alignment.

There is little development along this section of road. There are numerous driveways just north of the north project limit of RP 12.0. There is one forest road approach within the project limits at RP 12.032 on the east side of the road that has a steep approach. There is a pullout area from approximately RP 12.372 to RP 12.436 on the east side of the road for river access.

The road was originally built in 1958 under project S – 268(1). An overlay was placed in 1996 under RTS 473-1(1)0 [3238].

The existing paved width is generally 24 feet wide with two 11 foot travel lanes and two 1 ft shoulders.

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Existing fill slopes range from 6:1 to 1½:1 and fill heights range from less than 9 ft to over 18 ft. Existing cut depths are generally less than 9 ft, back slopes are 3:1 or steeper, and inslopes are 2:1 to 3:1 and steeper.

This photo is at RP 12.351 looking south. The fill slope is about 1½:1, with about 4 feet between the edge of pavement and the hinge point of the fill.



The horizontal alignment consists of 3 flat curves. The sharpest curve, at RP 12.096, has an 818.51 foot radius and is 723.1 feet long. The curve's radius exceeds the minimum of 760 feet for a 50 mph design speed.

The vertical alignment features fairly level grades connected by two 400 foot sag vertical curves and an 800 foot crest vertical curve. The steepest grade within the project limits is -1.43%. There is a +2.13% grade just to the south of RP 12.5 that may impact the design of the guardrail.

The field review team noticed that some of the fill slopes along this section of road (on the east side of the road) have some large pieces of blasted rock and/or boulders in them. This was probably from the original construction of the road where they put rocky material from the cut slope on the west side of the road in the fill section.

5. **Traffic Data** – The letting date and design year traffic volumes were projected by applying a 2.7% annual growth rate to the 2006 AADT of 850. This provides enough precision for the guardrail design criteria that is traffic-volume dependent.

2006 ADT = 850 (Present)
2007 ADT = 880 (Letting Date)
2027 ADT = 1,490 (Design Year)
Growth Rate = 2.7% (Annual)

6. **Accident History** – The segment of S - 473 from RP 12.0 to RP 12.5 had 8 recorded crashes from January 1, 1994 to December 31, 2003. Five crashes were considered correctable by the proposed improvements. Of these crashes, 4 were injury crashes resulting in 8 injuries and 1 was a property damage only crash. There were no fatal crashes during this time period.

The cost/benefit ratio was calculated at 5.27, based on a construction cost estimate of \$120,900. The project is on a rural collector, so it qualifies for funding under the High Risk Rural Road program.

7. **Major Design Features** – We propose to design this project in accordance with the geometric design criteria for the pertinent design elements (i.e. guardrail and slope flattening), as presented in the 1992 Geometric Design Standards. Additional guidance will be obtained from the Road Design Manual (as updated June 2006), particularly Figure 12-5 (Geometric Design Criteria for Rural Collector Roads) and Chapter 14 (Roadside Safety).

Although we will strive to achieve 50 mph design speed criteria for guardrail, the existing topography (steep embankments and approaches) may limit the extent to which the shy distance and length of need requirements can be met. The guardrail will be designed to provide a minimum shy distance (distance from edge of 12-foot driving lane to face of rail) of 2 feet. Adequate length of need will be provided where practical to do so, with consideration given to intersection sight distance and the impact to private approaches.

The design will be done in US Customary Units, and will be assigned to the Missoula crew of the Road Design Section in Helena.

- a. **Design Speed** - We propose a design speed of 50 mph, appropriate because although the grades are characteristic of level terrain (60 mph), the horizontal alignment is more characteristic of mountainous terrain (45 mph), so a 50 mph design speed (rolling terrain) is a reasonable compromise. The posted speed limit is 55 mph.
- b. **Horizontal Alignment** – No changes are proposed.

- c. **Vertical Alignment** – No changes are proposed.
- d. **Typical Sections** – No changes to the existing roadway are proposed. Shoulder gravel may be required to level the area between the edge of pavement and the face of the guardrail. Embankment-in-place will be used to flatten slopes at end sections.
- e. **Geotechnical Considerations** – No involvement.
- f. **Hydraulics** – No involvements
- g. **Bridges** – There are no bridges on this project.
- h. **Traffic Engineering** – The only Traffic Engineering involvement will be the possible resetting of three signs. There is a curve warning sign at RP 12.35± that may interfere with guardrail installation. The sign appears to be five to six feet off the edge of pavement. The "falling rock" warning sign at RP 12.68 and the road name guide sign at RP 12.70± may also have to be reset if the guardrail extends that far south.
- i. **Pedestrian/Bicycles/ADA** – There is no evidence of much pedestrian or bicycle use on the roadway. Placement of the guardrail 2 feet from the edge of 12-foot driving will likely affect the comfort level of bicyclists and pedestrians, but providing a wider shoulder is beyond the scope of this project.
- j. **Miscellaneous Features** – Guardrail itself is inherently considered a miscellaneous design feature. Issues associated with the design of the guardrail include the following:
 - 1) Along some embankments, difficult-to-construct sliver fills would be needed to provide the two feet of 10:1 or flatter embankment behind the guardrail post. We propose to specify 7-foot guardrail posts spaced at 3'1½" (Detailed Drawing 606-11A&B) along the entire project to eliminate the need for two feet of widening behind the rail.
 - 2) Sight distance from at least one approach will be a concern. We will consider slope flattening the segment just south of the approach at RP 12.032 to reduce the length of rail in proximity to the approach. This approach has a steep downhill landing which may contribute to restricted sight distance after the guardrail is installed. We'll evaluate the feasibility of raising the elevation of the approach landing.

We will also look at specifying steel guardrail posts where sight distance is restricted. The steel post is considerably smaller in

cross-section than a wood post, so the driver has greater ability to see “through” the line of posts when viewed obliquely from an approach.

- 3) Areas disturbed by grading will be revegetated. The area will probably be about 0.2 acre, so we’ll consider a lump sum bid item for REVEGETATION instead of a bid item by the acre. The item would require revegetation of all areas disturbed by construction and would include topsoil, seed, mulch, etc.

- k. **Context Sensitive Issues** – No issues contest sensitive issues have been identified.
8. **Other Projects** – There are currently no other programmed projects on MT 473 between RP 0± and RP 14.0±. The section of S-473 between the Highway 93 junction and the Conner Cutoff Road junction at RP 3.1± was closed on May 26th this year due to high water undercutting the roadway at RP 0.5±. Traffic is being detoured on US 93 to the Conner cutoff and back onto S-473. A project may be programmed in the near future after preliminary geotechnical investigation to determine the magnitude of the fix.
9. **Location Hydraulics Study Report** – This report is not required, given the limited scope of the project.
10. **Design Exceptions** – The design exception process does not apply to safety projects. The applicable design elements that do not comply with MDT design criteria (i.e. guardrail details, shy distance, etc.) will be discussed in the scope of work report.
11. **Right-of-Way** – The existing right-of-way is 200 ft on the east side of the road. The existing right-of-way on the west side of the road is 50 feet from Station 630+31 to 643+00 and 200 feet from 643+00 to 656+71. No right-of-way involvement is anticipated.
12. **Access Control** – No access control is proposed.
13. **ITS** – N/A
14. **Utilities/Railroad** – There is an overhead power line along the west side of the road. There are 4 power poles associated with this power line between RP 12.147 to RP 12.467. The power poles look like they are approximately 10 to 12 feet from the edge of pavement and should not affect the placement of guardrail.

There are pedestals for buried telephone visible along the route. The one most likely to be impacted is at RP 12.04± on the east side, just south of an approach.

If this approach is revised to improve sight distance, the pedestal will probably be in conflict. We suspect the phone line is buried in the ditch along the west side, so it would not be impacted by guardrail installation on the east side. The phone line location will have to be verified during survey.

There are no railroads within the project limits.

15. **Survey** – The survey request is attached. The District is requested to provide a survey that provides information including, but not limited to, PTW centerline, edge of pavement, edge of shoulder, toe of ditch, approaches, power poles, underground utilities, and signs.
16. **Public Involvement** – A “Level A” public involvement plan is appropriate for this project. A news release for the project will be distributed to the various local media. The public involvement plan may be adjusted if controversial issues arise.
15. **Environmental Considerations** – No significant environmental issues are anticipated. The review team did notice some large trees along the embankments we propose to shield with guardrail. Some tree may have to be removed if they are within the deflection zone behind the guardrail. We did not notice any obvious wetlands or hazardous waste sites. There are no apparent 4(f) or 6(f) involvements.

The level of environmental evaluation and documentation for a Programmatic Categorical Exclusion is appropriate.
17. **Traffic Control** – Appropriate signing, lane closures, detours, etc. in accordance with the MUTCD, will be used to maintain traffic through construction. Traffic will likely be restricted to one lane during working hours. During non-working hours, we will try to maintain two-way traffic through the project.
18. **Project Management** - Bill Squires will be the project manager, and the Missoula crew of the Road Design section will develop the plans.
19. **Ready Date**: The ready date will be established through the OPX2 override process. Similar projects in the recent past have had development times of about 18 months.

20. **Preliminary Cost Estimate** – The preliminary construction cost estimate was developed using Estimator and preliminary quantities based on project limits of RP 12.04± to RP 12.59±:

w/ ICAP (10.91%)

Guardrail installation and related slope work -	\$ 101,000	
Traffic Control (Lump Sum)	\$ 15,000	
Subtotal	\$ 116,000	
Mobilization (18%)	\$ 21,000	
Subtotal	\$ 137,000	
Contingencies (5%)	\$ 7,000	
Subtotal	\$ 144,000	
Inflation (3% per year for 2 years)	\$ 9,000	
Total CN	\$ 153,000	\$ 170,000
CE (8%)	\$ 12,000	\$ 13,000

21. Location Map

